

New species of *Neonella* Gertsch, 1936 (Araneae, Salticidae)

by

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With 23 figures

ABSTRACT

Four new species of *Neonella* Gertsch, 1936 are described: *N. lubrica* and *N. nana* from Paraguay, *N. antillana* from Jamaica and *N. montana* from Argentina. New illustrations of the epigyna of *N. vinnula* Gertsch, 1936 (type species) and *N. minuta* Galiano, 1965 are given. In *Neonella* species the epigynal openings are inside pockets whose shape and position are specific diagnostic.

INTRODUCTION

According to GERTSCH and IVIE (1955), *Neon* Simon, 1876 and *Neonella* Gertsch, 1936 may belong to the Chalcoscirteae group, though they "have not quite attained the acme" of the features of the group. Specimens of *Neonella* are even smaller than those of *Neon* which had been considered by these authors as the smallest members of the family. Individuals of both genera live in similar sites: relatively dark places on the ground of woods or forests, under rotten wood and dead leaves and sometimes under rocks. They are usually found when sifting soil detritus. This habitat may account for the paucity of the knowledge about their biology.

After the original description of the genus fifty years ago based on *N. vinnula* from the United States, only one more species was added: *Neonella minuta* Galiano, 1965, from Argentina.

Through the courtesy of different persons I have had the opportunity to study some collections of undetermined material among which there are four new species of *Neonella*. The study of these specimens together with fresh material of *N. minuta* allow me to add

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new generic diagnostic characters. More detailed illustrations of the epigyna of *N. vinnula* and *N. minuta* are given, in order to compare them with those of the new species (Figs 13-17).

I thank Dr. VOLKERT MAHNERT who transmitted to me the Salticidae collected by members of the Muséum d'Histoire naturelle de Genève during their expeditions to Paraguay² as a part of the Biological Inventory Program of the Ministerio de Agricultura y Ganadería from Paraguay and the Swiss Technical Cooperation (COSUDE). I also thank Dr. HERBERT W. LEVI of the Museum of Comparative Zoology for the loan of the Caribbean specimen.

The format of the descriptions follows GALIANO (1963); leg spination is described as in PLATNICK & SHADAB (1975) with small changes; all the measurements are given in millimeters.

A b b r e v i a t i o n s : AME, ALE, PME and PLE: anterior median, anterior lateral, posterior median and posterior lateral eyes, respectively. v: ventral; p: prolateral; r: retrolateral; b: basal; d: dorsal; ap: apical. MHNG: Muséum d'Histoire naturelle de Genève, Switzerland; MCZ: Museum of Comparative Zoology, Harvard, USA; MACN: Museo Argentino de Ciencias Naturales, "Bernardino Rivadavia", Buenos Aires.

Neonella Gertsch, 1936

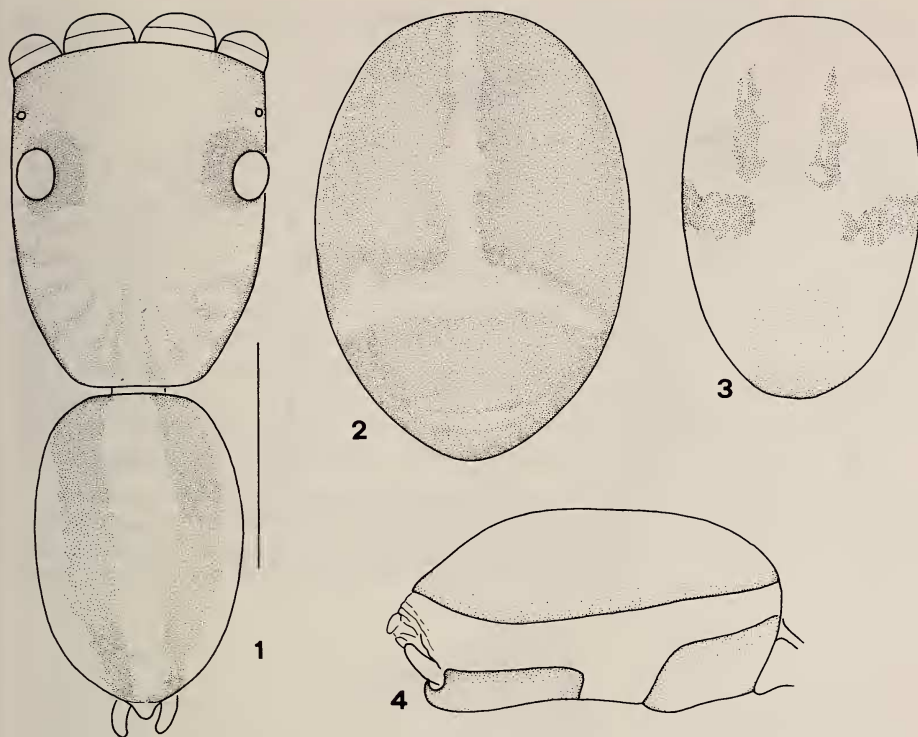
Neonella Gertsch, 1936: 23; ROEWER 1954: 1240; BONNET 1958: 3053; RICHMAN 1982: 57.

DIAGNOSIS: *Neonella* is close to *Neon* but can be distinguished by the absence of thoracic groove, the presence of dorsal and ventral abdominal scuta in males, the shorter terminal embolus with a thick tip and the epigynal openings inside funnel-like pockets.

DESCRIPTION: Very small spiders (males 1.3-1.8 mm, females 1.5-2 mm). Prosoma moderately high, sides parallel, without thoracic groove. Ocular quadrangle wider than long, almost parallel. PME closer to PLE than to ALE. Eyes big. ALE 70% the diameter of AME, somewhat protruding at frontal angles. Clypeus very low, oblique, with few bristles. Queliceræ very short and weak; promargin stout with two teeth; retromargin with a single tooth. Endites round, a little convergent over the labium. Sternum wide. Fourth leg longer than third. Few spines. Femora and patellæ of all legs without spines. Tibiæ and metatarsi I and II with 2-2 ventral spines or less. Posterior tibiæ and metatarsi with very few spines, generally fourth tibia without spines. Palps: tibia with a retrolateral apophysis; bulb oval with a basal cone projecting over the ventral tibia. Embolus apical, generally curved with membranes or little spicules. Epigynum generally with two funnel-like pockets (which can be united forming a single middle pocket as in *N. montana* n. sp.). The epigynal openings are connected by short ducts with the spherical or oval anterior spermathecae. Cuticle of the body smooth, shiny, iridescent, with few hairs. A tuft of white hairs over the anal tubercle. Males with dorsal and ventral abdominal scuta.

Type species: *Neonella vinnula* Gertsch, 1936.

² Autumn 1979, participants: F. Baud, C. Dlouhy, V. Mahnert, J.-L. Perret, Cl. Vaucher. Autumn 1982, participants: F. Baud, M.-C. Durette-Desset, C. Dlouhy, V. Mahnert, J.-L. Perret, Cl. and P. Vaucher.



FIGS 1-4.

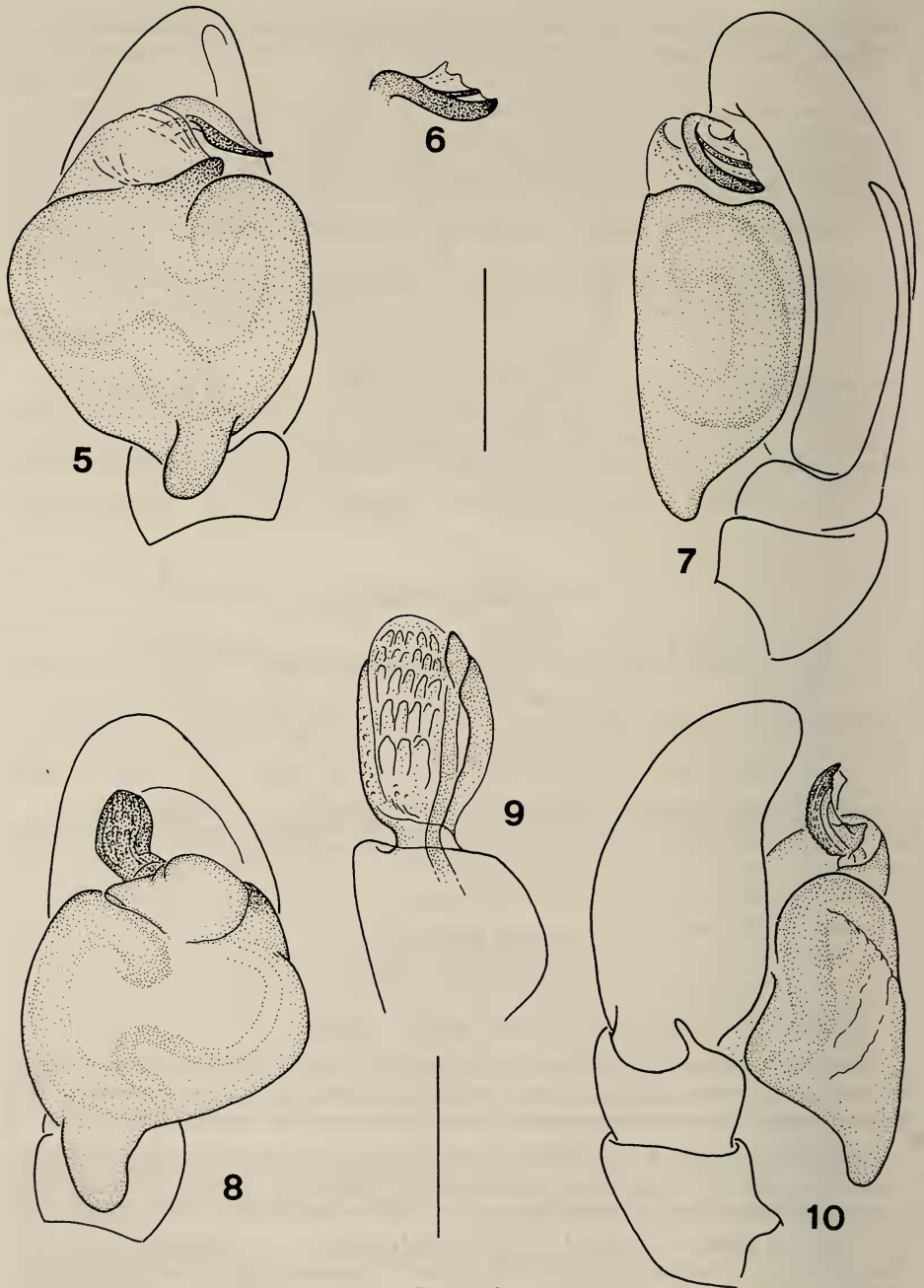
Neonella antillana n. sp., male holotype; 1: body, dorsal view. *N. lubrica* n. sp.; 2: female holotype, abdomen, dorsal view; 3: male paratype, abdomen, dorsal view; 4: the same, lateral view. Scale lines 100 μ m.

***Neonella lubrica* n. sp.**
(Figs 2-4, 5-7, 15, 20)

ETYMOLOGY: From the latin *lubricus*, smooth, slippery.

DIAGNOSIS: *Neonella lubrica* can be distinguished from the other species by the very thin retrolateral palpal apophysis that reaches the distal third of the cymbium. The epigynal pockets are contiguous and the spermathecae are big, almost spherical.

DESCRIPTION: FEMALE HOLOTYPE. Total length 1.90. Prosoma 0.81 long, 0.57 wide, 0.32 high. Clypeus 0.03 high. Ocular quadrangle: 0.37 long; first row 0.61 wide, third row 0.59 wide. Eye interdistances and diameters: ALE-PME 0.09, PME-PLE 0.05, AME 0.19, ALE 0.12. Leg spination: Tibiae I v 2-2; II v 1r-1r; III v 1p, r 1. Metatarsi I, II v 2-2; III ap 4; IV ap 3. Epigynum: (Figs 15, 20). Colour: Prosoma yellowish brown with black margins. Cephalic region black; thoracic region with a yellow longitudinal band. Abdomen dark brown with a transverse yellow band almost in the middle and a longitudinal yellow band from there to the base (Fig. 2). Sides and venter yellow. Posterior spinnerets brown, the others yellow. Legs yellow with black bands and spots as follows:



FIGS 5-10.

Palps. *Neonella lubrica* n. sp.; 5: ventral view; 6: embolus, retrodorsal view; 7: retrolateral view. *N. antillana* n. sp.; 8: ventral view; 9: embolus, ventral view; 10: retrolateral view.

Scale lines 100 μ m.

legs I and II, a longitudinal prolateral band on femur and apical transverse bands on patella, tibia and metatarsus; III, with a black band in the middle and two apical lateral spots on femur; apical transverse bands on patella and tibia; IV lateral black bands on tibia. Palps white with a prolateral black band on femur.

MALE PARATYPUS. Total length 1.67. Prosoma 0.72 long, 0.55 wide, 0.31 high. Clypeus 0.03 high. Ocular quadrangle: 0.35 long; first row 0.57, third row 0.58. Eye interdistances and diameters: ALE-PME 0.10, PME-PLE 0.05, AME 0.18, ALE 0.12. Leg spination: Tibiae I v 2-2; II v 1r; III v 1, p 1, r 1. Metatarsi I v 2-2; II v 1r b; III ap 4; IV ap 3. Palp: (Figs 5-7) tibial retrolateral apophysis very long and slender, a little bent at the apex that reaches the apical third of the cymbium. Embolus short, curved, the apex with a membranous sector (Fig. 6). Colour: Prosoma as the female but a little darker. Abdomen yellow, dorsum with a pair of longitudinal basal bands and a pair of transverse black bands almost at the middle part (Figs 3, 4). The entire dorsum covered by a yellow, shining scutum. Venter yellow, the epigastric area sclerotized and a scutum at the ventral distal half, with a stout border over the spinnerets. Black fusiform hairs around the base of the spinnerets. Legs light yellow with black spots and bands.

MATERIAL EXAMINED: Collected by sifting soil litter, dead leaves and rotten wood in the forest or under bamboo trees. Females Holotypus (MHNG) and one female Paratypus (No. 8407 MACN) from Paraguay, Depto. Itapúa, San Benito (Pastoreo) 29.X.1982; one male Paratypus (MHNG) Depto. Itapúa, Salto Tembey, 4 km above waterfalls, 1.XI.1982.

***Neonella nana* n. sp.**
(Figs 11, 12, 16, 22, 23)

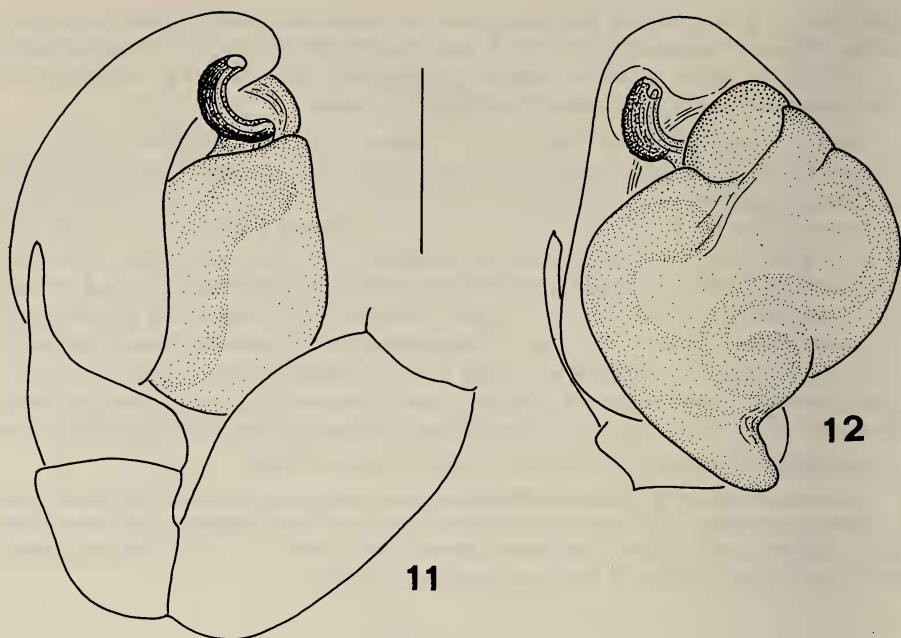
ETYMOLOGY: from the latin *nana*, dwarf.

DIAGNOSIS: *Neonella nana* can be distinguished by having the two epigynal pockets fairly widely separated. The palpal tibial apophysis is longer than in *Neonella vinnula*, *N. antillana* n. sp. and *N. minuta* but shorter than in *N. lubrica* n. sp. The embolus is shorter than in *N. minuta* and differently shaped.

DESCRIPTION: FEMALE HOLOTYPE. Total length 2.06. Prosoma 0.78 long, 0.55 wide, 0.33 high. Clypeus 0.02 high. Ocular quadrangle: 0.38 long; first row 0.58 wide; third row 0.57 wide. Eye interdistances and diameters: ALE-PME 0.05, PME-PLE 0.05, AME 0.18, ALE 0.12. Leg spination: Tibiae I v 2-2; II v 1r-1r; III v 1p. Metatarsi I, II v 2-2; III ap 4. Epigynum: (Figs 16, 22). Colour: Prosoma dark brown, cephalic region black. A longitudinal yellow band on thoracic region. Abdomen dark brown with small yellow dots and two or three light brown apical chevrons. Black fusiform hairs around the base of the spinnerets. Legs yellow. Palps white.

MALE PARATYPUS. Prosoma 0.71 long, 0.52 wide, 0.31 high. Ocular quadrangle: 0.35 long; first row 0.55 wide; third row 0.54 wide. Eye interdistances and diameters: ALE-PME 0.08, PME-PLE 0.05, AME 0.18, ALE 0.12. Leg spination: Tibiae I, II v 1r; III v 1p. Metatarsi I v 2-2; II v 1r b; III ap 4. Palps: (Figs 11, 12). Retrolateral tibial apophysis moderately long; embolus curved, with extremely thin teeth on the external border. Colour: Prosoma as in the female. Legs yellow, lateral sides of femora III and IV and of patella, tibia and metatarsus IV, blackish.

NOTE: The abdomen of the male is missing.



FIGS 11, 12.

Palp. *Neonella nana* n. sp.; 11: retrolateral view; 12: ventral view. Scale lines 100 μ m.

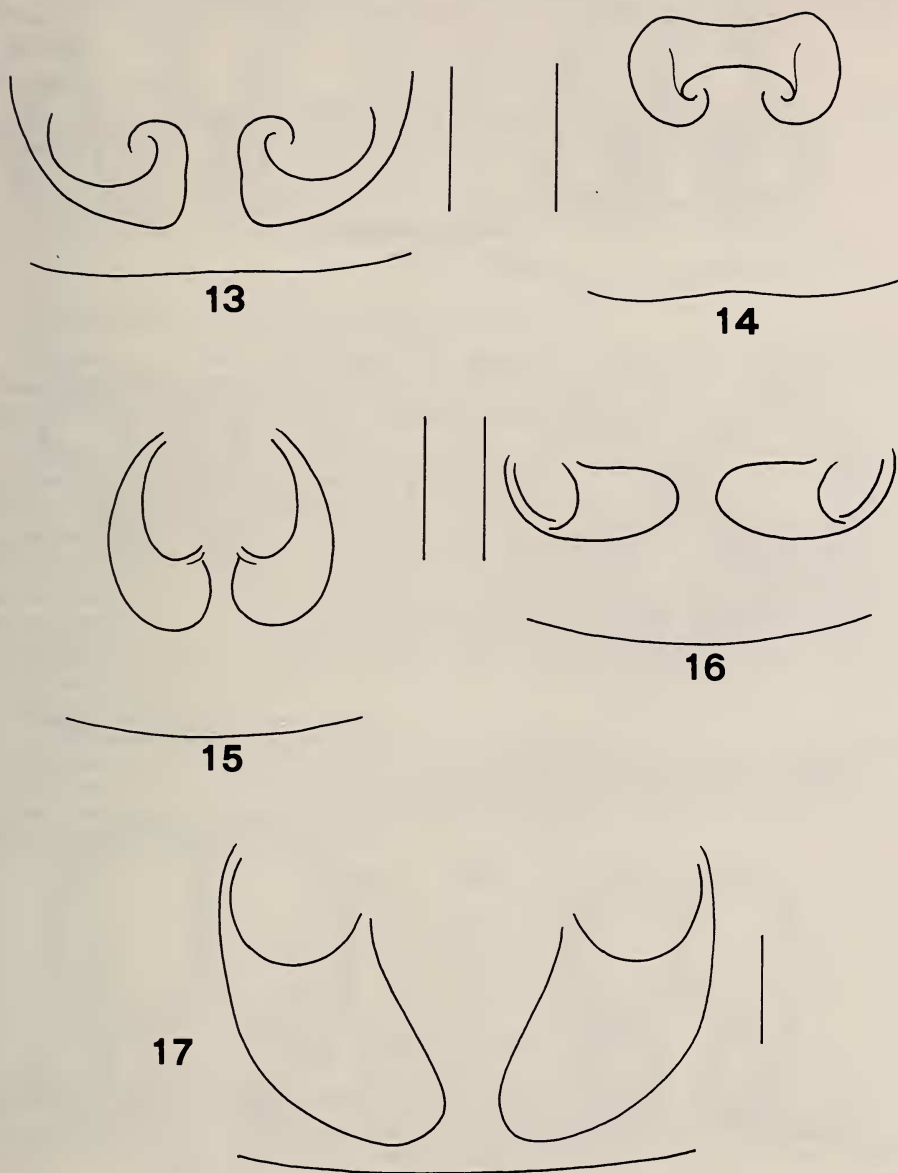
MATERIAL EXAMINED: Female Holotypus and one male Paratypus (MHNG) from Paraguay, Depto. Concepción, Colonia Sgto. José E. López, 13.X.1979 (sifting in the forest); two females Paratypi (No. 8408 MACN) from Paraguay, Depto. Neembucú, 5 km NW of Pilar, 18.X.1982 (sifting rotten wood and dead leaves on *Eucalyptus* plantation).

***Neonella antillana* n. sp.**
(Figs 1, 8-10)

ETYMOLOGY: from Antillas, the Caribbean Islands.

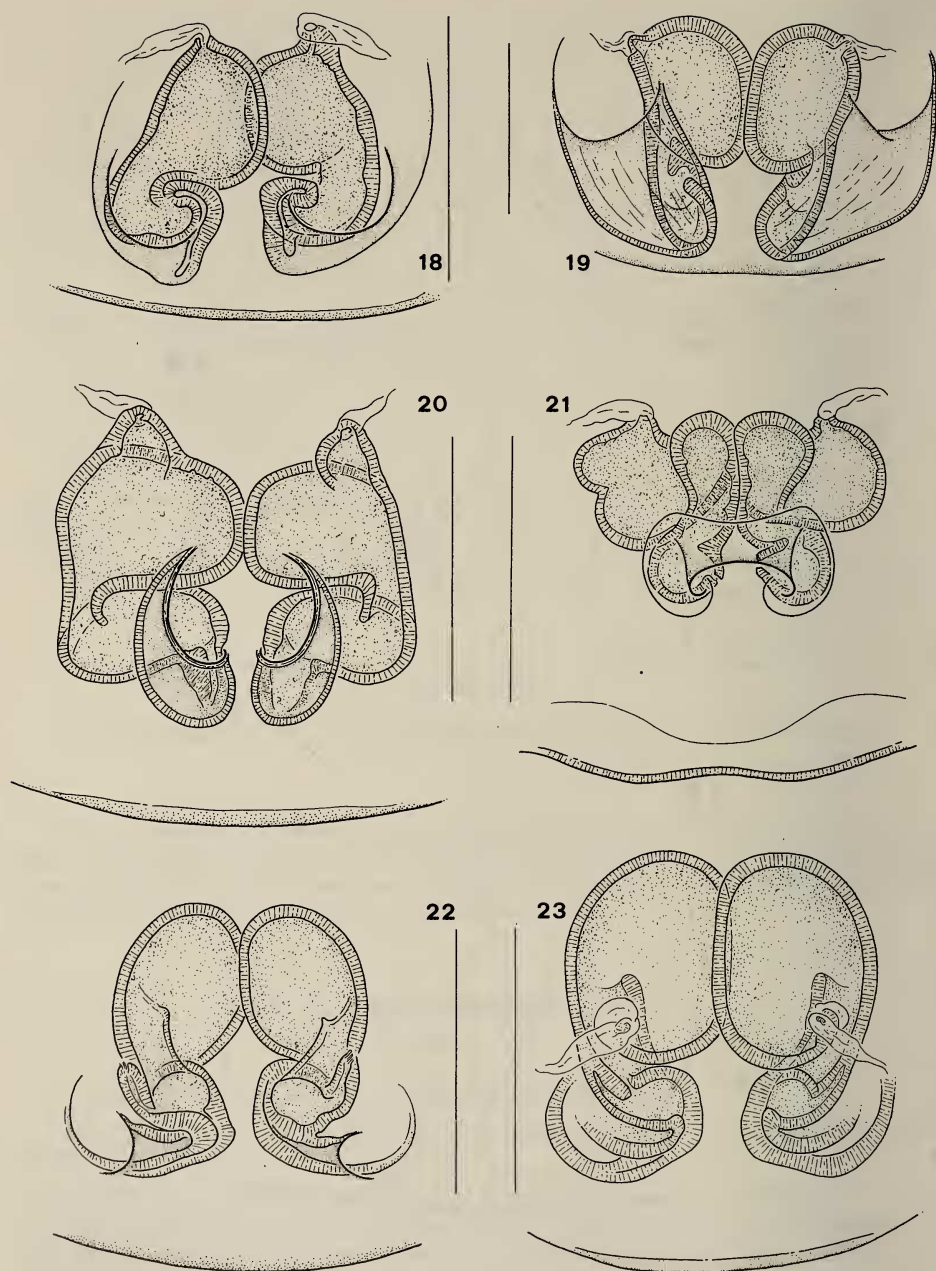
DIAGNOSIS: *Neonella antillana* is very similar to *N. vinnula* but it can be distinguished by the shape of the embolus.

DESCRIPTION: MALE HOLOTYPE. Total length 1.40. Prosoma 0.70 long, 0.53 wide, 0.35 high. Clypeus 0.03 high. Ocular quadrangle: 0.35 long; first row 0.54 wide, third row 0.55 wide. Eye interdistances and diameters: ALE-PME 0.09, PME-PLE 0.05, AME 0.17, ALE 0.12. Leg spination: Tibiae I, II v 1r b; III v 1p. Metatarsi I v 2-2; II v 1r b; III ap 4. Palps: (Figs 8-10). Retrolateral tibial apophysis short, oblique. Embolus wide, curved, the internal surface covered by tiny spicules, the external border finely serrated (Fig. 9). Colour: Prosoma yellow with black margins. Cephalic region black. Abdomen yellow, dorsum with two broad black longitudinal bands, covered by a scutum (Fig. 1).



FIGS 13-17.

Epigynal pockets on species of *Neonella*, diagrammatic, ventral view; 13: *N. vinnula* Gertsch; 14: *N. montana* n. sp.; 15: *N. lubrica* n. sp.; 16: *N. nana* n. sp.; 17: *N. minuta* Galiano. Scale lines 50 μ m.



FIGS 18-23.

Epigynes. 18: *N. vinnula* Gertsch, ventral view; 19: *N. minuta* Galiano, ventral view; 20: *N. lubrica* n. sp., holotype, ventral view; 21: *N. montana* n. sp., holotype, ventral view; 22: *N. nana* n. sp., holotype, ventral view; 23: paratype, dorsal view. Scale lines 100 μ m.

Sides with narrow longitudinal black bands. Venter yellow, the epigastric area sclerotized; a ventral scutum on the distal half, whose distal border is very stout. Spinnerets yellow. Legs yellow.

FEMALE: unknown.

MATERIAL EXAMINED: Male Holotypus (MCZ) from West Indies, Jamaica, St. Andrews, Richard Reservoir. 23.XI.1963.

***Neonella montana* n. sp.**

(Figs 14, 21)

ETYMOLOGY: from the latin *montanus*, from the hills.

DIAGNOSIS: *Neonella montana* can be distinguished from the other species of *Neonella* by having only one opening on the epigynal plate, formed by a large, trapezoid pocket. The epigynal ducts end at the superior angle of the spermathecae.

DESCRIPTION: FEMALE HOLOTYPE. Prosoma 0.70 long, 0.50 wide, 0.30 high. Clypeus 0.01 high. Ocular quadrangle: 0.33 long; first row 0.51, third row 0.51. Eye inter-distances and diameters: ALE-PME 0.07, PME-PLE 0.05, AME 0.17, ALE 0.11. Leg spination: Tibiae I v 2-2; II v 1r. Metatarsi I v 2-2; II v 1r-1r; III ap 2. Epigynum: Figs 14, 21. Colour: Prosoma light brown with narrow black margins. Cephalic region black; thoracic region with a longitudinal yellow band. Abdomen brown with small yellow spots. Venter light brown, with two longitudinal yellow bands. Sternum yellow. Legs yellow, a little darker on prolateral femur and tibia I, with a transverse black band on the apex of patella and tibia. Palps white.

MALE: unknown.

MATERIAL EXAMINED: Female Holotypus (No. 8409 MACN) from Argentina, Córdoba Prov., Cuesta Cura Brochero, 15.XI.1984, Galiano, M. E. & Miranda, M. coll. (under pebbles on the ground); one female Paratypus (No. 8410 MACN), Buenos Aires Prov., Sierras de Olavarría, Estancia La China, 24.XI.1972, Maury, E. coll.

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